

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-36 (cancelled).

37. (new) A method for providing an improved surface of a III-V semiconductor at crystal mirror facets for laser cavities, comprising:

providing a wafer comprising a layer of III-V semiconductor material;

in an ambient atmosphere comprising at least one of air, dry air, and dry nitrogen ambients, cleaving the wafer to produce a chip having at least one crystal mirror facet;

removing oxides and other surface contaminants from the at least one crystal mirror facet by dry etching the at least one crystal mirror facet in a vacuum; and

after the dry etching step, growing a native nitride layer on the at least one crystal mirror facet;

wherein the native nitride layer comprises native nitride compounds, each native nitride compound comprising a group III element and nitrogen; and

wherein the nitrogen in the native nitride compounds was supplied during the growing step, and all other atoms in the

native nitride compounds were present in the at least one crystal mirror facet prior to the growing step.

38. (new) The method of claim 37, wherein the native nitride compounds are selected from the group consisting of GaN, InN, AlN, AlGaN, and InAsN.

39. (new) The method of claim 37, wherein each native nitride compound consists of at least one group III element and nitrogen.

40. (new) The method of claim 39, wherein each native nitride compound consists of one group III element and nitrogen.

41. (new) The method of claim 37, wherein said all other atoms in the native nitride compounds were present in the layer of III-V semiconductor material prior to the cleaving step.

42. (new) The method of claim 37, comprising the further step of adding a passivation layer in direct contact with the native nitride layer.